United States Department of the Interior

IN REPLY REFER TO:

NATIONAL PARK SERVICE
Southeast Utah Group
Arches and Canyonlands National Parks
Hovenweep and Natural Bridges National Monuments
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1.A.2 (SEUG-RSS)

August 15, 2014

Memorandum

To: Files, Southeast Utah Group of National Parks

From: Superintendent, Southeast Utah Group Kate Cannon

Subject: Determination regarding the prohibition of unmanned aircraft in parks of the Southeast Utah Group

There has been rapid growth in the numbers and use of unmanned aircraft[1] throughout much of the United States in recent years. Due to increasing affordability and ease of operation, such use also has spread to many national park areas including Arches and Canyonlands National Parks. Use of unmanned aircraft represents a new form of park use in all parks of the Southeast Utah Group (SEUG; including Arches National Park, Canyonlands National Park, Hovenweep National Monument, and Natural Bridges National Monument). National Park Service (NPS) *Management Policies 2006* (Sections 1.5 and 8.2) indicate that a new form of park use can be allowed only after a determination has been made in the professional judgment of the superintendent that it will not result in unacceptable impacts to park resources and values. The purpose of this memo is to document my evaluation and determination regarding the potential impacts of unmanned aircraft use on resources and values of SEUG parks.

By law and policy, NPS is required to maintain and restore the integrity of park natural and cultural resources and associated values. Iconic scenic views, natural soundscapes, and numerous types of wildlife such as desert bighorn sheep and raptors are among the most significant resources and values associated with SEUG parks. With respect to scenic values, unmanned aircraft operating in the sky above park lands or waters would represent unnatural visual features that would readily attract the attention of casual observers. For most observers, the presence of such visual distractions would diminish the quality of scenic views as well as observers' opportunities to experience and enjoy them. The likely conflict between unmanned aircraft use and opportunities for other park visitors to experience and enjoy scenic views also would have the potential to generate significant conflicts among these different groups of park users.

In addition to creating unnatural visual distractions, operation of unmanned aircraft would generate noise that would disturb natural soundscape conditions. The natural soundscape is a significant resource in all SEUG parks, encompassing all natural sounds of different frequencies and volumes, as well as the physical capacity for transmitting those sounds and their interrelationships. Examples of natural sounds include sounds produced by birds and insects to define territories or aid in attracting mates; sounds produced by bats to locate prey or navigate; sounds received by mice, deer, and other animals to detect and avoid predators or other dangers; and sounds produced by physical processes such as wind in trees and running water in streams and rivers. As a

[1] For purposes of this memo, unmanned aircraft are defined as devices that are used or intended to be used for flight in the air without the possibility of direct human intervention from within or on the device, and the associated operational elements and components that are required for the pilot or system operator in command to operate or control the device (such as cameras, sensors, and communication links). The term "unmanned aircraft" includes all types of devices that meet this definition (e.g., model airplanes, quadcopters, drones) that are used for any purpose, including for recreation or commerce.

significant component of natural park environments, the natural soundscape also contributes in many ways to visitors' experience and enjoyment of solitude and numerous other park resources. Due to noise generation, unmanned aircraft use likely would contribute to significant conflicts between users of such aircraft and other park users who value the experience of the natural soundscape.

Use of unmanned aircraft also would have the potential to adversely affect park wildlife such as desert bighorn sheep and raptors. Although specific research on effects of unmanned aircraft is lacking, human-caused noise has received much recent attention as a stressor that can have adverse impacts on wildlife (Barber et al. 2010, Francis and Barber 2013). Chronic noise can interfere with animals' capacity to detect and respond to important sounds, whereas intermittent noise and visual disturbances can be perceived as threats that trigger predator-avoidance behavior (Frid and Dill 2002, Francis and Barber 2013). In either case, these effects have the potential to result in physiological costs that may impact animal survival or reproductive success. Desert bighorn sheep, which occur both in Arches and Canyonlands, are known to be sensitive to aircraft noise (Stockwell et al. 1991) and other forms of recreational disturbances (Papouchis et al. 2001).

Several raptor species nest in SEUG parks, and raptors as a group are known to be sensitive to various forms of human disturbance (Richardson and Clinton 1997, and citations therein). Similar to desert bighorn sheep, specific research has found Mexican spotted owls (a species that is listed as threatened pursuant to the federal Endangered Species Act) to be sensitive both to aircraft noise (Delaney et al. 1999) and recreational use (Swarthout and Steidl 2001). Numerous nesting territories of Mexican spotted owls are known to occur throughout Canyonlands National Park.

Potential impacts on wildlife are illustrated well by an April 2014 incident in which an unmanned aircraft was documented as having disturbed and scattered a herd of desert bighorn sheep in Zion National Park.

In addition to these numerous potential adverse impacts to park resources, values, and visitor experiences, use of unmanned aircraft over SEUG park lands or waters would have the potential to threaten public safety. This potential is demonstrated by an April 2014 incident associated with an unmanned aircraft that was launched by park visitors at the South Rim of Grand Canyon National Park. After the aircraft had been noisily flying back and forth over the canyon for some time, the operator lost control of it and the unmanned aircraft crashed into the canyon near a group of 40 visitors.

Determination

In accordance with the provisions of 36 CFR 1.5, and the requirements of NPS *Management Policies 2006* Sections 1.5 and 8.2, it is my professional judgment that it is necessary to prohibit the use of unmanned aircraft in SEUG parks to protect public safety, minimize visitor-use conflicts, and prevent unacceptable impacts to scenic values, natural soundscapes, and wildlife. Less restrictive measures, such as designating specific areas where unmanned aircraft may be used, will not suffice to protect specified park resources and values because of the potential for them to occur throughout the entire extent of all SEUG parks.

Attachment

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